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United States Patent [19]**Norfleet et al.**[11] **Patent Number:** **5,486,350**[45] **Date of Patent:** **Jan. 23, 1996**[54] **DESENSITIZING ANTI-TARTAR
DENTIFRICE**[75] Inventors: **James Norfleet**, Plainfield; **Willie J. Carter**, Belle Mead; **Matthew J. Frankel**, Franklin Park; **Abdul Gaffar**, Princeton, all of N.J.[73] Assignee: **Colgate Palmolive Company**, Piscataway, N.J.[21] Appl. No.: **254,718**[22] Filed: **Jun. 6, 1994****Related U.S. Application Data**

[62] Division of Ser. No. 71,384, Jun. 4, 1993, Pat. No. 5,352, 439, which is a continuation of Ser. No. 778,532, Oct. 17, 1991, Pat. No. 5,240,697.

[51] **Int. Cl.⁶** **A61K 7/16; A61K 7/18**[52] **U.S. Cl.** **424/49; 424/52; 424/57**[58] **Field of Search** **424/49-58**[56] **References Cited****U.S. PATENT DOCUMENTS**

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Primary Examiner—Shep K. Rose*Attorney, Agent, or Firm*—Robert L. Stone; Robert C. Sullivan; Murray M. Grill[57] **ABSTRACT**

An oral composition, such as a toothpaste, includes an anti-tartar proportion of a polyphosphate anti-tartar agent (preferably with synthetic anionic polymeric polycarboxylate or equivalent, and fluoride) and a desensitizing proportion of a tooth pain inhibiting potassium salt which passes through exposed dentin tubules to tooth nerves or neurons, which salt can be potassium nitrate, potassium citrate or potassium oxalate, so that it helps to prevent tartar from forming on the teeth and also lessens any pain experienced by persons contacting their sensitive teeth with the oral composition. Preferably the oral composition is a desensitizing anti-tartar toothpaste or gel which, when the teeth are brushed with it, aids in removal of at least some tartar and prevents its reappearance, and at the same time diminishes any tooth pain that the brusher would otherwise experience due to such brushing. In preferred toothpastes the anti-tartar agent and the desensitizing agent are both potassium compounds and other components of the toothpaste, such as the detergent or surfactant, thickener, water soluble fluoride, anionic polymeric polycarboxylate, sweetener and any anti-calculus agent present, when they may be present as salts, will also be potassium salts. In place of the mentioned anti-tartar agents there may be employed other anti-calculus compounds, such as AMP (azacycloheptane-2-2-diphosphonic acid) or corresponding alkali metal salt, preferably the potassium salt, and in such case it is very desirable for other components of the toothpaste to be in the forms of their potassium salts.

7 Claims, No Drawings